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Soggetti	User interfaces (Computer systems) Human-computer interaction Application software Artificial intelligence Computer networks Computers, Special purpose Education - Data processing User Interfaces and Human Computer Interaction Computer and Information Systems Applications Artificial Intelligence Computer Communication Networks Special Purpose and Application-Based Systems Computers and Education
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Nota di contenuto	User Centred Design and User Participation in Inclusive R&D -- User Centered Design and User Participation in Inclusive R&D: Introduction to the Special Thematic Session -- My Train Talks to Me: Participatory Design of a Mobile App for Travellers with Visual Impairments -- What do Older People Actually Want from Their Robots? -- Accessibility of

Block-based Introductory Programming Languages and a Tangible Programming Tool Prototype -- Consigliere Evaluation: Evaluating Complex Interactive Systems with Users with Disabilities -- IPAR-UCD { Inclusive Participation of Users with Cognitive Disabilities in Software Development -- Artificial Intelligence, Accessible and Assistive Technologies -- Artificial Intelligence, Accessible and Assistive Technologies: Introduction to the Special Thematic Session -- AI and Global AAC Symbol Communication -- Can a Web Accessibility Checker be Enhanced by the Use of AI? -- Towards the Assessment of Easy-to-Read Guidelines Using Artificial Intelligence Techniques -- Research on Book Recommendation System for People with Visual Impairment Based on Fusion of Preference and User Attention -- Karaton: An Example of AI Integration Within a Literacy App -- Can We Unify Perception and Localization in Assisted Navigation? An Indoor Semantic Visual Positioning System for Visually Impaired People -- IBeaconMap: Automated Indoor Space Representation for Beacon-Based Wayfinding -- XR Accessibility – Learning from the Past, Addressing Real User Needs and the Technical Architecture for Inclusive Immersive Environments -- XR Accessibility - Learning from the Past and Addressing Real User Needs for Inclusive Immersive Environments: Introduction to the Special Thematic Session -- Usability of Virtual Reality Vocational Skills Training System for Students with Intellectual Disabilities -- Virtual and Augmented Reality Platform for Cognitive Tele-Rehabilitation Based System -- An Immersive Virtual Reality Exergame for People with Parkinson's Disease -- Augmented Reality for People with Low Vision: Symbolic and Alphanumeric Representation of Information -- Enhancing Interaction and Accessibility in Museums and Exhibitions with Augmented Reality and Screen Readers -- Suitable Camera and Rotation Navigation for People with Visual Impairment on Guidelines for Inclusive Avatars and Agents: How Persons with Visual Impairments Detect and Recognize Others and their Activities -- Motiv'Handed, a New Gamified Approach for Home-Based Hand Rehabilitation for Post-Stroke Hemiparetic Patients -- Move-IT: A Virtual Reality Game for Upper Limb Stroke Rehabilitation Patients -- Serious and Fun Games -- Serious and Fun Games: Introduction to the Special Thematic Session -- A Study on Gaze Control - Game Accessibility Among Novice Players and Motor Disabled People -- Accessibility of Mobile Card Games -- Developing a Serious Game for Children with Diabetes -- An Augmented Reality Game for Helping Elderly to Perform Physical Exercises at Home -- Large-Scale Web Accessibility Observatories -- Large Scale Web Accessibility Observatories: Introduction to the Special Thematic Session -- Preliminary Results of a Systematic Review: Quality Assessment of Conversational Agents (Chatbots) for People with Disabilities or Special Needs -- Comp4Text Checker: An Automatic and Visual Evaluation Tool to Check the Readability of Spanish Web Pages -- Towards Cross Assessment of Physical and Digital Accessibility -- Requirements for Large Scale Web Accessibility Evaluation -- Accessible and Inclusive Digital Publishing -- STS on Accessible and Inclusive Digital Publishing: Introduction to the Special Thematic Session -- How Web Professionals Perceive Web Accessibility in Practice: Active Roles, Process Phases and Key Disabilities -- Towards More Efficient Screen Reader Web Access with Automatic Summary Generation and Text Tagging -- A Series of Simple Processing Tools for PDF Files for People with Print Disabilities -- Layout Analysisof PDF Documents by Two-Dimensional Grammars for the Production of Accessible Textbooks -- A Multi-site Collaborative Sampling for Web Accessibility Evaluation -- AT and Accessibility for Blind and Low Vision Users -- An Overview of the New

8-Dots Arabic Braille Coding System -- Image-Based Recognition of Braille Using Neural Networks on Mobile Devices -- Developing a Magnification Prototype Based on Head and Eye-Tracking for Persons with Low Vision -- Numeric Key Programming: Programmable Robot Kit for Both Visually Impaired and Sighted Elementary School Students -- Art Karshmer Lectures in Access to Mathematics, Science and Engineering -- AUDiaL: a Natural Language Interface to Make Statistical Charts Accessible to Blind Persons -- EuroMath: A Web-based Platform for Teaching of Accessible Mathematics -- Multidisciplinary Experience Feedback on the Use of the HandiMathKey Keyboard in a Middle School -- Rainbow Math: A Case Study of Using Colors in Math for Students with Moderate toSevere Dyslexia -- On Automatic Conversion from e-Born PDF into Accessible EPUB3 and Audio-Embedded HTML5 -- Tactile Graphics and Models for Blind People and Recognition of Shapes by Touch -- Development of Tactile Globe by Additive Manufacturing -- Touch Explorer: Exploring Digital Maps for Visually Impaired People -- Development of TARS Mobile App with Deep Fingertip Detector for the Visually Impaired -- TouchPen: Rich Interaction Technique for Audio-Tactile Charts by Means of Digital Pens -- Environmental Sensing Technologies for Visual Impairment -- A Multi-Scale Embossed Map Authoring Tool for Indoor Environments -- A Real-Time Indoor Localization Method With Low-Cost Microwave Doppler Radar Sensors and Particle Filter -- An Audio-Based 3D Spatial Guidance AR System for Blind Users -- An Indoor Navigation App Using Computer Vision and Sign Recognition -- Suitable Camera and Rotation Navigation for People with Visual Impairment on Looking for Something Using Object Detection Technique -- Expiry-Date Recognition System Using Combination of Deep Neural Networks for Visually Impaired -- Indoor Query System For The Visually Impaired -- SelfLens: A Personal Assistive Technology to Support the Independence of People with Special Needs in Reading Information on Food Items.

Sommario/riassunto

The two-volume set LNCS 12376 and 12377 constitutes the refereed proceedings of the 17th International Conference on Computers Helping People with Special Needs, ICCHP 2020, held in Lecco, Italy, in September 2020. The conference was held virtually due to the COVID-19 pandemic. The 104 papers presented were carefully reviewed and selected from 206 submissions. Included also are 13 introductions. The papers are organized in the following topical sections: Part I: user centred design and user participation in inclusive R&D; artificial intelligence, accessible and assistive technologies; XR accessibility – learning from the past, addressing real user needs and the technical architecture for inclusive immersive environments; serious and fun games; large-scale web accessibility observatories; accessible and inclusive digital publishing; AT and accessibility for blind and low vision users; Art Karshmer lectures in access to mathematics, science and engineering; tactile graphics and models for blind people and recognition of shapes by touch; and environmental sensing technologies for visual impairment Part II: accessibility of non-verbal communication: making spatial information accessible to people with disabilities; cognitive disabilities and accessibility – pushing the boundaries of inclusion using digital technologies and accessible eLearning environments; ICT to support inclusive education – universal learning design (ULD); hearing systems and accessories for people with hearing loss; mobile health and mobile rehabilitation for people with disabilities: current state, challenges and opportunities; innovation and implementation in the area of independent mobility through digital technologies; how to improve interaction with a text input system; human movement analysis for the design and evaluation of interactive

systems and assistive devices; and service and care provision in assistive environments 10 chapters are available open access under a Creative Commons Attribution 4.0 International License via link. springer.com.